



PATENT  
Attorney Docket No. ASC-058A

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT(S):       Leitz *et al.*  
SERIAL NO.:         10/647,074         GROUP NO.:         2812  
FILING DATE:        August 22, 2003       EXAMINER:         Not Yet Assigned  
TITLE:               Semiconductor Heterostructures and Related Methods

**CERTIFICATE OF FIRST CLASS MAILING UNDER 37 C.F.R. 1.8**

I hereby certify that this correspondence, and any document(s) referred to as enclosed herein, is/are being deposited with the United States Postal Service as first class mail, postage prepaid, in an envelope addressed to the Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on this 23<sup>rd</sup> day of December, 2003.

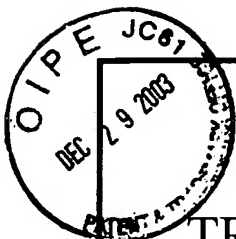
  
Emily Walsh

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

Submitted herewith are:

1. Transmittal Form (1 pg.);
2. Information Disclosure Statement (2 pgs.);
3. Form PTO-1449 (17 pgs.), with copies of cited references B1-B48 and C1-C131;
4. Return Receipt Postcard; and this
5. Certificate of First Class Mailing (1 pg.).



# TRANSMITTAL FORM

Application Serial Number	10/647,074
Filing Date	August 22, 2003
First Named Inventor	Leitz
Group Art Unit	2812
Examiner Name	Not Yet Assigned
Attorney Docket No.	ASC-058A
Patent No.	Not Applicable
Issue Date	Not Applicable

## ENCLOSURES (check all that apply)

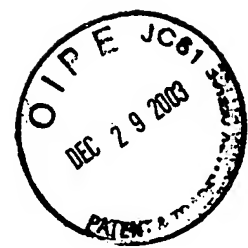
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|---|---|---|
| <input type="checkbox"/> Fee Transmittal Form<br><input type="checkbox"/> Check Attached<br><input type="checkbox"/> Copy of Fee Transmittal Form<br><br><input type="checkbox"/> Amendment/Response<br><input type="checkbox"/> Preliminary<br><input type="checkbox"/> After Final<br><input type="checkbox"/> Affidavits/declaration(s)<br><input type="checkbox"/> Letter to Official Draftsperson including Drawings [Total Sheets ____]<br><br><input type="checkbox"/> Petition for Extension of Time<br><br><input checked="" type="checkbox"/> Information Disclosure Statement<br><input checked="" type="checkbox"/> Form PTO-1449<br><input checked="" type="checkbox"/> Copies of IDS Citations (B1-B48 and C1-C131)<br><br><input type="checkbox"/> Certified Copy of Priority Document(s)<br><br><input type="checkbox"/> Sequence Listing submission<br><input type="checkbox"/> Paper Copy/CD<br><input type="checkbox"/> Computer Readable Copy<br><input type="checkbox"/> Statement verifying identity of above | <input type="checkbox"/> Copy of Notice to File Missing Parts of Application<br><br><input type="checkbox"/> Formal Drawing(s)<br><br><input type="checkbox"/> Request For Continued Examination (RCE) Transmittal<br><br><input type="checkbox"/> Power of Attorney (Revocation of Prior Powers)<br><br><input type="checkbox"/> Terminal Disclaimer<br><br><input type="checkbox"/> Executed Declaration and Power of Attorney for Utility or Design Patent Application<br><br><input type="checkbox"/> Small Entity Statement<br><br><input type="checkbox"/> CD(s) for large table or computer program<br><br><input type="checkbox"/> Amendment After Allowance<br><br><input type="checkbox"/> Request for Certificate of Correction<br><input type="checkbox"/> Certificate of Correction (in duplicate) | <input type="checkbox"/> Notice of Appeal to Board of Patent Appeals and Interferences<br><br><input type="checkbox"/> Appeal Brief (in triplicate)<br><br><input type="checkbox"/> Status Inquiry<br><br><input checked="" type="checkbox"/> Return Receipt Postcard<br><br><input checked="" type="checkbox"/> Certificate of First Class Mailing under 37 C.F.R. 1.8<br><br><input type="checkbox"/> Certificate of Facsimile Transmission under 37 C.F.R. 1.8<br><br><input type="checkbox"/> Additional Enclosure(s) (please identify below) |
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## SIGNATURE BLOCK

Respectfully submitted,  
  
Date: December 23, 2003  
Reg. No. 50,773  
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PATENT  
Attorney Docket No. ASC-058A

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

APPLICANTS:           Leitz *et al.*

SERIAL NUMBER:   10/647,074                      ART UNIT:   2812

FILING DATE:       August 22, 2003              EXAMINER:   Not Yet Assigned

TITLE:               Semiconductor Heterostructures and Related Methods

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**INFORMATION DISCLOSURE STATEMENT**

In accordance with the provisions of 37 C.F.R. 1.97 and 1.98, Applicants hereby make of record the patents and publications listed on the accompanying Form PTO-1449, and other information contained herein, for consideration by the Examiner in connection with the examination of the above-identified patent application. In accordance with the U.S. Patent Office's partial waiver of the requirement under 37 C.F.R. 1.98 (a)(2)(i), only copies of the foreign patent documents and non-patent publications are enclosed.

It is respectfully requested that each of the patents and publications listed on the attached Form PTO-1449, and other information contained herein, be made of record in this application.

In addition, Applicants wish to inform the Examiner about the following commonly-owned, co-pending patent applications, including all cited references and Office actions issued therein:

U.S. Serial Number	Filing Date	Inventor Name
09/611,024	July 6, 2000	Fitzgerald
10/268,025	October 9, 2002	Fitzgerald
10/268,425	October 10, 2002	Vineis et al.

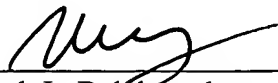
In accordance with the provisions of 37 C.F.R. 1.97, this statement is being filed before the mailing of the first Office action on the merits. Applicants believe no fees are due for this paper to be entered and considered, but the Commissioner is hereby authorized to charge Deposit Account No. 20-0531 for any required fees that may be due.

Date: December 23, 2003  
Reg. No. 50,773

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Respectfully submitted,

  
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FORM PTO - 1449

## INFORMATION DISCLOSURE STATEMENT

ATTORNEY DOCKET NO.: ASC-058A

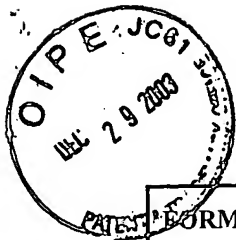
APPLICANT(S): Leitz *et al.*

SERIAL NO.: 10/647,074

FILING DATE: August 22, 2003 GROUP: 2812

## U.S. PATENT DOCUMENTS

EXAM. INIT.		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING DATE IF APPROPRIATE
	A1	2001/0003364	06/14/2001	Sugawara <i>et al.</i>			
	A2	2001/0014570	08/16/2001	Wenski <i>et al.</i>			
	A3	2002/0043660	04/18/2002	Yamazaki <i>et al.</i>			
	A4	2002/0052084	05/02/2002	Fitzgerald			
	A5	2002/0084000	07/04/2002	Fitzgerald			
	A6	2002/0096717	07/25/2002	Chu <i>et al.</i>			
	A7	2002/0100942	08/01/2002	Fitzgerald <i>et al.</i>			
	A8	2002/0123167	09/05/2002	Fitzgerald			
	A9	2002/0123183	09/05/2002	Fitzgerald			
	A10	2002/0123197	09/05/2002	Fitzgerald <i>et al.</i>			
	A11	2002/0125471	09/12/2002	Fitzgerald <i>et al.</i>			
	A12	2002/0125497	09/12/2002	Fitzgerald			
	A13	2002/0168864	11/14/2002	Cheng <i>et al.</i>			
	A14	2002/0185686	12/12/2002	Christiansen <i>et al.</i>			
	A15	2003/0003679	01/02/2003	Doyle <i>et al.</i>			
	A16	2003/0013323	01/16/2003	Hammond <i>et al.</i>			
	A17	2003/0025131	02/06/2003	Lee <i>et al.</i>			
	A18	2003/0034529	02/20/2003	Fitzgerald <i>et al.</i>			
	A19	2003/0041798	03/06/2003	Wenski <i>et al.</i>			
	A20	2003/0057439	03/27/2003	Fitzgerald			
	A21	2003/0077867	04/24/2003	Fitzgerald			
	A22	2003/0102498	06/05/2003	Braithwaite <i>et al.</i>			
	A23	2003/0127646	07/10/2003	Christiansen <i>et al.</i>			
	A24	2003/0186073	10/02/2003	Fitzgerald			03/18/2003
	A25	4,010,045	03/01/1977	Ruehrwein			
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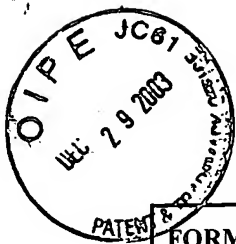
APPLICANT(S): Leitz *et al.*

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## U.S. PATENT DOCUMENTS

EXAM. INIT.		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING DATE IF APPROPRIATE
	A26	4,710,788	12/01/1987	Dambkes <i>et al.</i>			
	A27	4,900,372	12/13/1990	Lee <i>et al.</i>			
	A28	4,987,462	01/22/1991	Kim <i>et al.</i>			
	A29	4,990,979	02/05/1991	Otto			
	A30	4,997,776	03/05/1991	Haramé <i>et al.</i>			
	A31	5,013,681	05/07/1991	Godbey <i>et al.</i>			
	A32	5,091,767	02/25/1992	Bean <i>et al.</i>			
	A33	5,097,630	03/24/1992	Maeda <i>et al.</i>			
	A34	5,155,571	10/13/1992	Wang <i>et al.</i>			
	A35	5,159,413	10/27/1992	Calviello <i>et al.</i>			
	A36	5,166,084	11/24/1992	Pfiester			
	A37	5,177,583	01/05/1993	Endo <i>et al.</i>			
	A38	5,202,284	04/13/1993	Kamins <i>et al.</i>			
	A39	5,207,864	05/04/1993	Bhat <i>et al.</i>			
	A40	5,208,182	05/04/1993	Narayan <i>et al.</i>			
	A41	5,210,052	05/11/1993	Takasaki			
	A42	5,212,110	05/18/1993	Pfiester <i>et al.</i>			
	A43	5,221,413	06/22/1993	Brasen <i>et al.</i>			
	A44	5,241,197	08/31/1993	Murakami <i>et al.</i>			
	A45	5,250,445	10/05/1993	Bean <i>et al.</i>			
	A46	5,252,173	10/12/1993	Inoue			
	A47	5,279,687	01/18/1994	Tuppen <i>et al.</i>			
	A48	5,285,086	02/08/1994	Fitzgerald			
	A49	5,291,439	03/01/1994	Kauffmann <i>et al.</i>			
	A50	5,298,452	03/29/1994	Meyerson			
	A51	5,308,444	05/03/1994	Fitzgerald <i>et al.</i>			
EXAMINER				DATE CONSIDERED			



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## U.S. PATENT DOCUMENTS

EXAM. INIT.		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING DATE IF APPROPRIATE
	A52	5,310,451	05/10/1994	Tejwani <i>et al.</i>			
	A53	5,316,958	05/31/1994	Meyerson			
	A54	5,346,848	09/13/1994	Gruppen- Shemansky <i>et al.</i>			
	A55	5,374,564	12/20/1994	Bruel			
	A56	5,399,522	03/21/1995	Ohuri			
	A57	5,413,679	05/09/1995	Godbey			
	A58	5,424,243	06/13/1995	Takasaki			
	A59	5,425,846	06/20/1995	Koze <i>et al.</i>			
	A60	5,426,069	06/20/1995	Selvakumar <i>et al.</i>			
	A61	5,426,316	06/20/1995	Mohammad			
	A62	5,442,205	08/15/1995	Brasen <i>et al.</i>			
	A63	5,461,243	10/24/1995	Ek <i>et al.</i>			
	A64	5,461,250	10/24/1995	Burghartz <i>et al.</i>			
	A65	5,462,883	10/31/1995	Dennard <i>et al.</i>			
	A66	5,476,813	12/19/1995	Naruse			
	A67	5,479,033	12/26/1995	Baca <i>et al.</i>			
	A68	5,484,664	01/16/1996	Kitahara <i>et al.</i>			
	A69	5,523,243	06/04/1996	Mohammad			
	A70	5,523,592	06/04/1996	Nakagawa <i>et al.</i>			
	A71	5,534,713	07/09/1996	Ismail <i>et al.</i>			
	A72	5,536,361	07/16/1996	Kondo <i>et al.</i>			
	A73	5,540,785	07/30/1996	Dennard <i>et al.</i>			
	A74	5,596,527	01/21/1997	Tomioka <i>et al.</i>			
	A75	5,617,351	04/01/1997	Bertin <i>et al.</i>			
	A76	5,630,905	05/20/1997	Lynch <i>et al.</i>			
	A77	5,633,516	05/27/1997	Mishima <i>et al.</i>			
	A78	5,659,187	08/19/1997	Legoues <i>et al.</i>			
EXAMINER				DATE CONSIDERED			



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## INFORMATION DISCLOSURE STATEMENT

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APPLICANT(S): Leitz *et al.*

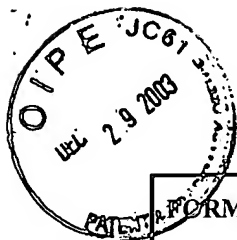
SERIAL NO.: 10/647,074

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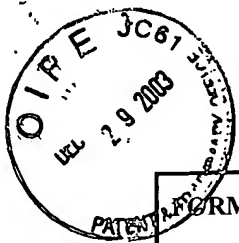
## U.S. PATENT DOCUMENTS

EXAM. INIT.		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING DATE IF APPROPRIATE
	A79	5,683,934	11/04/1997	Candelaria			
	A80	5,698,869	12/16/1997	Yoshimi <i>et al.</i>			
	A81	5,714,777	02/03/1998	Ismail <i>et al.</i>			
	A82	5,728,623	03/17/1998	Mori			
	A83	5,739,567	04/14/1998	Wong			
	A84	5,759,898	06/02/1998	Ek <i>et al.</i>			
	A85	5,777,347	07/07/1998	Bartelink			
	A86	5,786,612	07/28/1998	Otani <i>et al.</i>			
	A87	5,786,614	07/28/1998	Chuang <i>et al.</i>			
	A88	5,792,679	08/11/1998	Nakato			
	A89	5,801,085	09/01/1998	Kim <i>et al.</i>			
	A90	5,808,344	09/15/1998	Ismail <i>et al.</i>			
	A91	5,810,924	09/22/1998	Legoues <i>et al.</i>			
	A92	5,828,114	10/27/1998	Kim <i>et al.</i>			
	A93	5,847,419	12/08/1998	Imai <i>et al.</i>			
	A94	5,859,864	01/12/1999	Jewell			
	A95	5,877,070	03/02/1999	Goesele <i>et al.</i>			
	A96	5,891,769	04/06/1999	Liaw <i>et al.</i>			
	A97	5,906,708	05/25/1999	Robinson <i>et al.</i>			
	A98	5,906,951	05/25/1999	Chu <i>et al.</i>			
	A99	5,912,479	06/15/1999	Mori <i>et al.</i>			
	A100	5,943,560	08/24/1999	Chang <i>et al.</i>			
	A101	5,963,817	10/05/1999	Chu <i>et al.</i>			
	A102	5,966,622	10/12/1999	Levine <i>et al.</i>			
	A103	5,998,807	12/07/1999	Lustig <i>et al.</i>			
	A104	6,010,937	01/04/2000	Karam <i>et al.</i>			
	A105	6,013,134	01/11/2000	Chu <i>et al.</i>			
	A106	6,030,884	02/29/2000	Mori			
	A107	6,033,974	03/07/2000	Henley <i>et al.</i>			
EXAMINER				DATE CONSIDERED			





FORM PTO - 1449				ATTORNEY DOCKET NO.: ASC-058A			
INFORMATION DISCLOSURE STATEMENT				APPLICANT(S): Leitz <i>et al.</i>			
				SERIAL NO.: 10/647,074			
				FILING DATE: August 22, 2003 GROUP: 2812			
U.S. PATENT DOCUMENTS							
EXAM. INIT.		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING DATE IF APPROPRIATE
	A108	6,033,995	03/07/2000	Muller			
	A109	6,039,803	03/21/2000	Fitzgerald <i>et al.</i>			
	A110	6,058,044	05/02/2000	Sugiura <i>et al.</i>			
	A111	6,059,895	05/09/2000	Chu <i>et al.</i>			
	A112	6,074,919	06/13/2000	Gardner <i>et al.</i>			
	A113	6,096,590	08/01/2000	Chan <i>et al.</i>			
	A114	6,103,559	08/15/2000	Gardner <i>et al.</i>			
	A115	6,107,653	08/22/2000	Fitzgerald			
	A116	6,111,267	08/29/2000	Fischer <i>et al.</i>			
	A117	6,117,750	09/12/2000	Bensahel <i>et al.</i>			
	A118	6,124,614	09/26/2000	Ryum <i>et al.</i>			
	A119	6,130,453	10/10/2000	Mei <i>et al.</i>			
	A120	6,133,799	10/17/2000	Favors <i>et al.</i>			
	A121	6,140,687	10/31/2000	Shimomura <i>et al.</i>			
	A122	6,143,636	11/07/2000	Forbes <i>et al.</i>			
	A123	6,153,495	11/28/2000	Kub <i>et al.</i>			
	A124	6,154,475	11/28/2000	Soref <i>et al.</i>			
	A125	6,160,303	12/12/2000	Fattaruso			
	A126	6,162,688	12/19/2000	Gardner <i>et al.</i>			
	A127	6,184,111	02/06/2001	Henley <i>et al.</i>			
	A128	6,191,006	02/20/2001	Mori			
	A129	6,191,007	02/20/2001	Matsui <i>et al.</i>			
	A130	6,191,432	02/20/2001	Sugiyama <i>et al.</i>			
	A131	6,194,722	02/27/2001	Fiorini <i>et al.</i>			
	A132	6,204,529	03/20/2001	Lung <i>et al.</i>			
	A133	6,207,977	03/27/2001	Augusto			
	A134	6,210,988	04/03/2001	Howe <i>et al.</i>			
	A135	6,218,677	04/17/2001	Broekaert			
	A136	6,232,138	05/15/2001	Fitzgerald <i>et al.</i>			
	A137	6,235,567	05/22/2001	Huang			
EXAMINER				DATE CONSIDERED			



FORM PTO - 1449  <b>INFORMATION DISCLOSURE STATEMENT</b>				ATTORNEY DOCKET NO.: ASC-058A  APPLICANT(S): Leitz <i>et al.</i>  SERIAL NO.: 10/647,074  FILING DATE: August 22, 2003 GROUP: 2812			
<b>U.S. PATENT DOCUMENTS</b>							
EXAM. INIT.	DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING DATE IF APPROPRIATE	
	A138	6,242,324	06/05/2001	Kub <i>et al.</i>			
	A139	6,249,022	06/19/2001	Lin <i>et al.</i>			
	A140	6,251,755	06/26/2001	Furukawa <i>et al.</i>			
	A141	6,261,929	07/17/2001	Gehrke <i>et al.</i>			
	A142	6,266,278	07/24/2001	Harari <i>et al.</i>			
	A143	6,271,551	08/07/2001	Schmitz <i>et al.</i>			
	A144	6,271,726	08/07/2001	Fransis <i>et al.</i>			
	A145	6,291,321	09/18/2001	Fitzgerald			
	A146	6,313,016	11/06/2001	Kibbel <i>et al.</i>			
	A147	6,316,301	11/13/2001	Kant			
	A148	6,323,108	11/27/2001	Kub <i>et al.</i>			
	A149	6,329,063	12/11/2001	Lo <i>et al.</i>			
	A150	6,335,546	01/01/2002	Tsuda <i>et al.</i>			
	A151	6,339,232	01/15/2002	Takagi			
	A152	6,350,993	02/26/2002	Chu <i>et al.</i>			
	A153	6,368,733	04/09/2002	Nishinaga			
	A154	6,372,356	04/16/2002	Thornton <i>et al.</i>			
	A155	6,399,970	06/04/2002	Kubo <i>et al.</i>			
	A156	6,403,975	06/11/2002	Brunner <i>et al.</i>			
	A157	6,406,589	06/18/2002	Yanagisawa			
	A158	6,407,406	06/18/2002	Tezuka			
	A159	6,420,937	07/16/2002	Akatsuka <i>et al.</i>			
	A160	6,425,951	07/30/2002	Chu <i>et al.</i>			
	A161	6,429,061	08/06/2002	Rim			
	A162	6,482,749	11/19/2002	Billington <i>et al.</i>			
	A163	6,503,773	01/07/2003	Fitzgerald			
	A164	6,515,335	02/04/2003	Christiansen <i>et al.</i>			
	A165	6,518,644	02/11/2003	Fitzgerald			
<b>EXAMINER</b>				<b>DATE CONSIDERED</b>			

FORM PTO - 1449

## INFORMATION DISCLOSURE STATEMENT

ATTORNEY DOCKET NO.: ASC-058A

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## U.S. PATENT DOCUMENTS

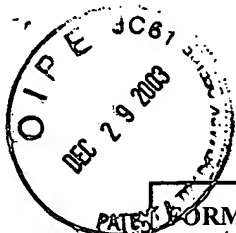
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	A166	6,521,041	02/18/2003	Wu <i>et al.</i>			
	A167	6,525,338	02/25/2003	Mizushima <i>et al.</i>			
	A168	6,555,839	04/29/2003	Fitzgerald			
	A169	6,573,126	06/03/2003	Cheng <i>et al.</i>			
	A170	6,576,532	06/10/2003	Jones <i>et al.</i>			
	A171	6,583,015	06/24/2003	Fitzgerald <i>et al.</i>			
	A172	6,593,191	07/15/2003	Fitzgerald			
	A173	6,594,293	07/15/2003	Bulsara <i>et al.</i>			
	A174	6,602,613	08/05/2003	Fitzgerald			
	A175	6,603,156	08/05/2003	Rim			

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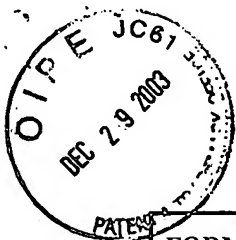
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	B3	0 587 520 /	03/16/1994	EP				N	Y
	B4	0 683 522 /	11/22/1995	EP				N	Y
	B5	0 828 296 /	03/11/1998	EP				N	Y
	B6	0 829 908 /	03/18/1998	EP				N	Y
	B7	0 838 858 /	04/29/1998	EP				N	Abstract
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	B9	1 174 928 /	01/23/2002	EP				N	Y
	B10	2 342 777 /	04/19/2000	GB				Y	Y
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	B15	6-252046	09/09/1994	JP				Y	Y
	B16	7-94420	04/07/1995	JP				N	Abstract
	B17	7-106446	04/21/1995	JP				N	Abstract
	B18	7-240372	09/12/1995	JP				N	Abstract
	B19	10-270685	10/09/1998	JP				N	Y
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	B32	99/53539	10/21/1999	WO				N	Y
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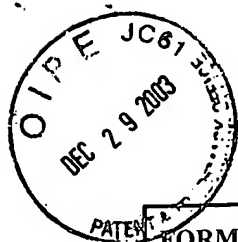
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	B40	02/071488	09/12/2002	WO				N	Y
	B41	02/071491	09/12/2002	WO				N	Y
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	B47	02/47168	06/13/2002	WO				N	Y
	B48	03/015140	02/20/2003	WO				N	Y

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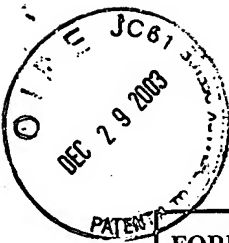
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FILING DATE: August 22, 2003 GROUP: 2812

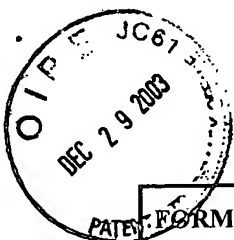
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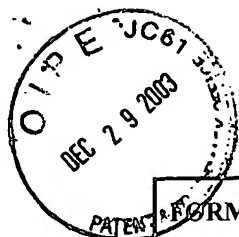


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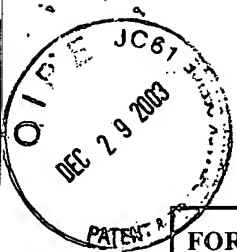




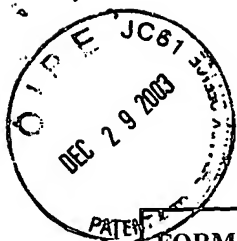
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INFORMATION DISCLOSURE STATEMENT		APPLICANT(S): Leitz <i>et al.</i>
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OTHER ART, JOURNAL ARTICLES, ETC.		
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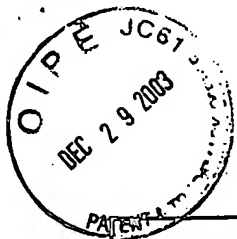
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